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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/564,427

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Manfred Bick

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FULBRIGHT & JAWORSKI, LLP
666 FIFTH AVE
NEW YORK, NY 10103-3198

EXAMINER

ZHU, WEIPING

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

08/19/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/564,427	Applicant(s) BICK ET AL.	
	Examiner WEIPING ZHU	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 8, 2009 has been entered.

Status of Claims

2. Claims 22-48 are currently under examination wherein claim 1 has been amended and claims 46-48 have been newly added in applicant's amendment filed on June 8, 2009.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 22-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shekhter et al. (US 6,558,447 B1).

With respect to claims 22-28, 40 and 43, Shekhter et al. ('447 B1) discloses a process for preparing a metal powder comprising (col. 4, line 46 to col. 7, line 27, col. 13, lines 55-66, col. 15, lines 25-65 and col. 18, lines 28-52) mixing an oxide of Nb or

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Ta with a reducing agent and heating the mixture in an oven to 850-1500 °C, optionally under an atmosphere of hydrogen until a reduction starts; leaching the reaction product; and washing and drying the resultant product to yield the metal powder, wherein the oxide have mean particle size of 1.7-7.3 microns, a BET specific surface area of 0.36-20 m²/g and a minimum content of 99 wt. %. The heating temperature, the oxide particle size, the oxide BET specific surface area and the oxide content of Shekhter et al. ('447 B1) overlap the claimed ranges in claim 23; claims 22, 24 and 43; claims 22, 25 and 26; and claims 22, 27, 28 and 40 respectively. A prima facie case of obviousness exists. See MPEP 2144.05 I.

With respect to claims 29-34, Shekhter et al. ('447 B1) discloses the impurity levels of Fe and Al, Si, Na, P in the oxide are less than 19 ppm, less than 7 ppm, less than 11 ppm, and negligible ppm respectively (col. 15, lines 25-40), which read on the claimed ranges respectively.

With respect to claims 35 and 36, Shekhter et al. ('447 B1) does not disclose the features. However, it has been well held where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes; a prima facie case of either anticipation or obviousness has been established. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977), MPEP 2112.01 [R-3] I. In the instant case, the claimed and Shekhter et al. ('447 B1)'s oxides are identical or substantially identical in composition and are produced by identical or substantially identical processes, therefore a prima facie case of obviousness exists. The same loss on ignition of the oxide at 1000°C as constant

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weight and the same tamped down bulk density would be expected in the oxide of Shekhter et al. ('447 B1) as in the claimed oxide.

With respect to claim 37, Shekhter et al. ('447 B1) does not disclose replacing the oxide by an additive of up to 15 wt. % of the oxide as claimed. However, the 0 wt. % of the low limit of the additive does not require the presence of the additive. Therefore, the oxide of Shekhter et al. ('447 B1) still meets the claim limitation.

With respect to claims 38-40, Shekhter et al. ('447 B1) discloses pure Mg was used as the reducing agent (col. 15, lines 50-53).

With respect to claim 41, Shekhter et al. ('447 B1) discloses the reaction is performed under an argon protective gas (col. 15, lines 55-60).

With respect to claim 42, Shekhter et al. ('447 B1) discloses the reaction product is leached with diluted mineral acid (col. 11, lines 40-51), which includes the claimed hydrochloric acid.

With respect to claim 44, the teaching of Shekhter et al. ('447 B1) regarding the limitations in the instant claim 22 as discussed above is properly applied. Shekhter et al. ('447 B1) further discloses that the process can be applied to co-produce metal powders comprising Ti, Zr, Hf and V (col. 3, line 66 to col. 4, line 8 and col. 20, lines 16-26).

With respect to claim 45, the teaching of Shekhter et al. ('447 B1) regarding the limitations in the instant claim 22 as discussed above is properly applied. Shekhter et al. ('447 B1) further teaches mixing an oxide powder of Nb and/or Ta with finely divided powders of reducing metals or metal hydrides (col. 7, lines 3-12) without limiting the order of the mixing. It would have been obvious to one of ordinary skill in the art at the

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time the invention was made to sequentially mixing an oxide of at least one of Nb and Ta with a reducing agent as claimed with expected success, because Shekhter et al. ('447 B1) teaches the same utility for any orders of mixing. See MPEP 2144.05 I.

With respect to claims 46-48, the teachings of Shekhter et al. ('447 B1) regarding the limitations in the instant claim 22, 44 and 45 as discussed above are properly applied. Even though the process for preparing a metal powder as disclosed by Shekhter et al. ('447 B1) may include one or more additional steps, the step(s) are utilized for particular applications. The process of Shekhter et al. ('447 B1) still can be viewed as consisting of the claimed 4 steps as evidenced by the claims 24, 26 and 48 of Shekhter et al. ('447 B1).

Response to Arguments

4. The applicant's arguments filed on June 8, 2009 have been fully considered but they are not persuasive.

The applicant argues that the oxides of Shekhter et al. ('447 B1) are reduced with magnesium in gaseous form, which is technical complex and expensive, while the reducing metal of the instant invention does not react in gaseous form. In response, the examiner notes that there is no limitation of the form of the reducing agent recited in the instant claims. Furthermore, it is noted that the instantly claimed reduction is carried out by blending the reducing agent with the metal oxide, the reaction takes place in contact with the molten reducing agent and under conditions of inability to control the temperature of highly exothermic reactions; therefore, one is unable to control morphology of the products and residual reducing metal content as disclosed by in

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Shekhter et al. ('447 B1) (col. 3, lines 7-14). Shekhter et al. ('447 B1) further discloses that this problem can be eliminated when metal oxides are reduced with magnesium in gaseous form (col. 3, lines 58-61).

Conclusions

5. This Office action is made non-final. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Weiping Zhu whose telephone number is 571-272-6725. The examiner can normally be reached on 8:30-16:30 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art
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6/26/2009